Datasheet

Victoria STM-16/OC-48 Plus

The Smartest Solution for Testing SDH/SONET/ATM/PDH/T-Carrier

The Victoria STM-16/OC-48 Plus has all the features of a portable tester. Thanks to its small size and light weight, this battery-fed tester is the ideal solution for field work.

The unique measurement features of Victoria make it suitable for a number of applications, both in and out of service:

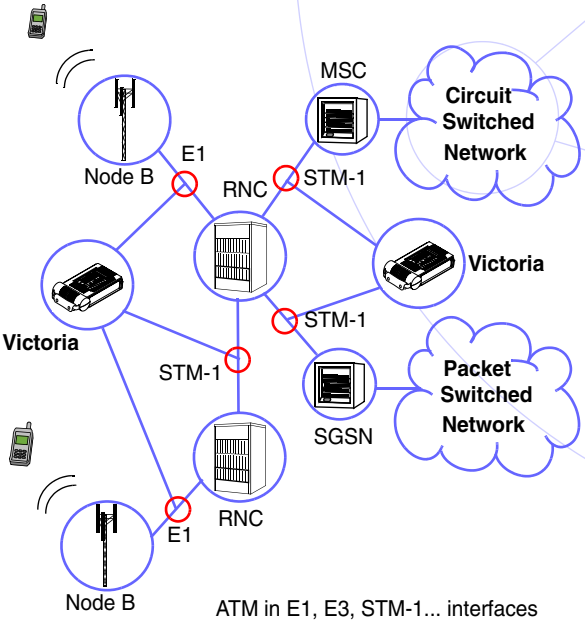
- Installation
- Acceptance and commissioning
- Monitoring and surveillance
- Repair and maintenance

Product Highlights

3G/UMTS Network

Telecom networks have evolved towards the integration of SDH/SONET, ATM and IP technologies under one single architecture, thus making it easier to bring today's new telematics applications into service.

The UMTS (3G) is a very typical example of a network where several technologies are merged, and these need to be separetely tested. After testing the physical layer, the ATM layer and the ATM Adaptation Layer (AAL) must also be tested.



ATM in E1, E3, STM-1... interfaces

The 3GPP (*3G Partnership Project*) defines a rich set of protocols between the end user and other networks. These protocols sit above ATM Adaptation Layers 2 and 5 (AAL-2 and AAL-5). The Iu and the Iub interfaces use the AAL-2 and AAL-5 to carry both user traffic and control traffic. By generating and emulating AAL2 and AAL5 traffic, commissioning of connections as well as in-service measurements are performed on 3G mobile networks.

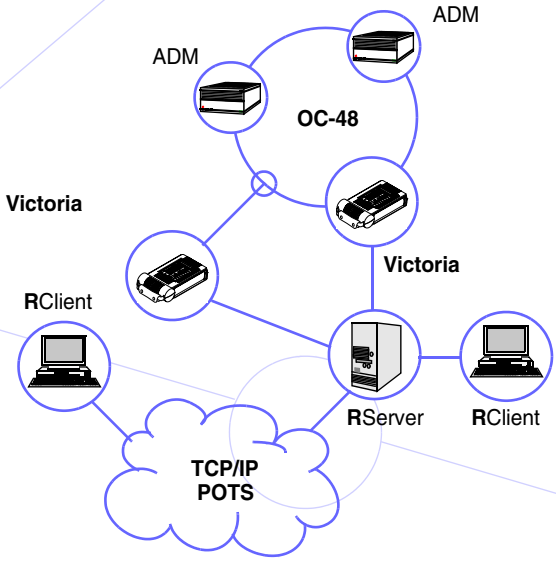
Remote Control

A Victoria STM-16/OC-48 Plus tester can be controlled from anywhere in the world, thanks to the remote control system that makes use of the Internet.

This enables you to test the whole network, manage and compare results and give help to your field technicians from one single control centre.

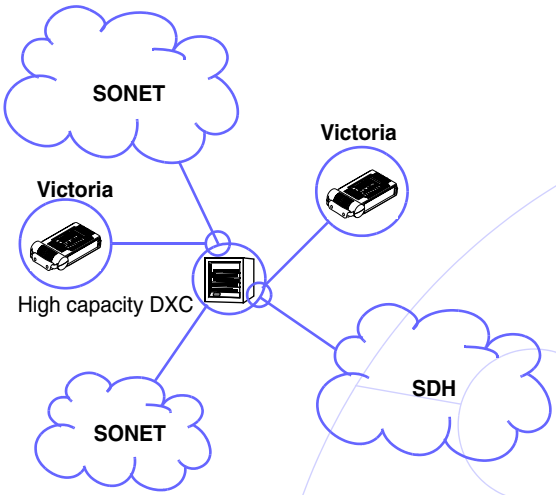
The following can be highlighted from among the basic remote control features of Victoria:

- Graphical interface based on intuitive, easy-to-use windows
- Simultaneous control of many instruments
- Client/Server architecture fully integrated into the Internet



Tests in International Gateways

The current technological needs call for testers that meet the varying standards of different countries. It is an essential requirement that a tester can interact with both European and American interfaces.

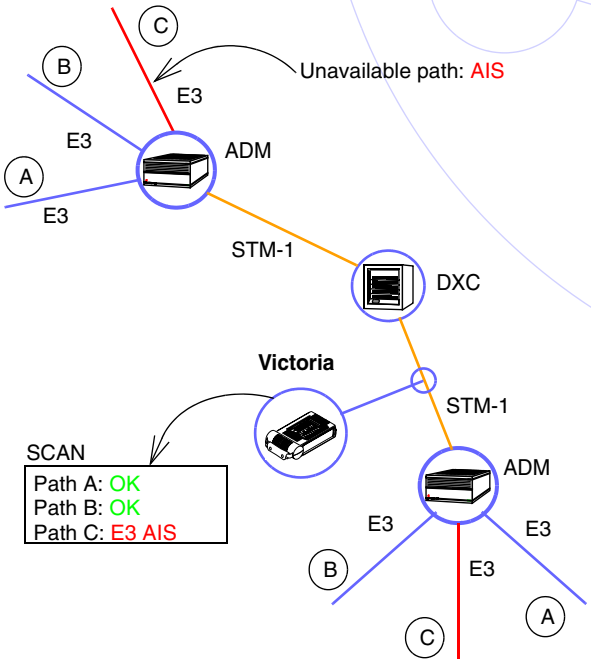


Victoria has the capacity to work with both SDH and SONET or PDH and T-Carrier at the same time, and this makes it a necessary tool in testing high-capacity gateways that interconnect SDH and SONET backbones.

Besides this, the use of some ANSI interfaces is becoming more common in Europe. For example, the use of DS3 signals at 45 Mbit/s is increasing in such applications as MPEG video transport.

Alarm and Error Scan

SDH/SONET signals are formed by multiplexed lower order tributaries. Some of these tributaries may get affected by errors or alarms, whereas others remain intact.



It is necessary to define the type of error and the part of the SDH/SONET signal affected, to find out which link or network element is causing the problem.

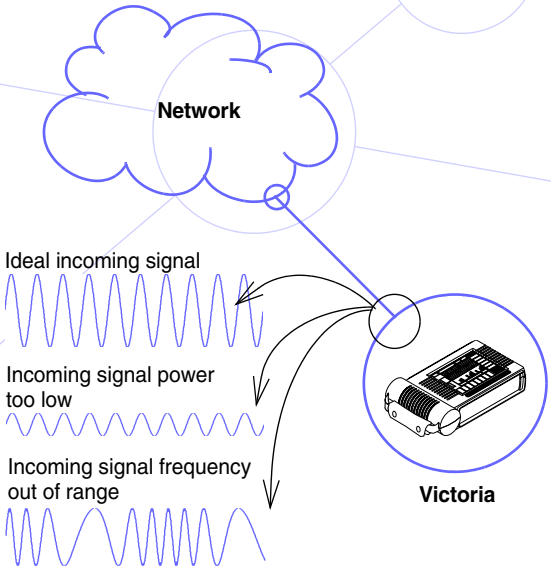
The scan function makes it possible to locate and isolate network events automatically. This function works at any hierarchical level, and it can be used for any type of mapping or tributary signal.

The path trace analysis and TCM capabilities of Victoria are also very useful when identifying the affected link.

Evaluating Analog Parameters

Before carrying out any digital measurements, it must be checked that the analog parameters of the signal remain within certain margins.

Victoria makes it possible to instantly check that the optical power and the frequency of the received signal are within the margins accepted by the ITU.



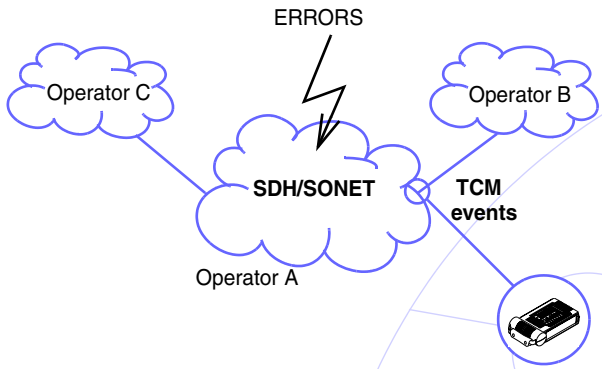
With Victoria STM-16/OC-48 Plus, it is safe to establish connection to a link to carry out an optical power measurement, as the receiver is protected against any overload that might damage it.

Frequency measurements are not limited only to presenting measurement results in Hertz, but it is also possible to make sophisticated synchronization measurements:

- TIE (*Time Interval Error*) measurement; TIE is caused by pointer movements in SDH and SONET
- Programming and analysis of standard pointer sequences, to test network tolerance
- Frequency offset generation in PDH / T-Carrier tributaries in SDH or SONET signals.

Tandem Connection Monitoring

In a multi-operator environment, there are some companies that offer transmission services of other operators or companies. In these circumstances, it is essential to delimit responsibilities whenever a problem occurs. The *Tandem Connection Monitoring* (TCM) protocol has been designed for this purpose.

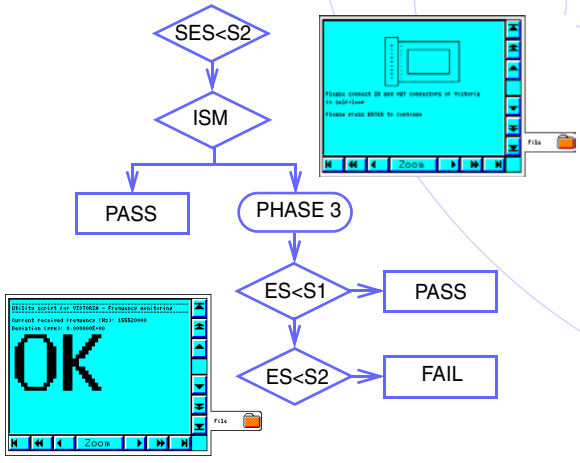


The TCM mechanism makes it possible to analyse the part of the path where a problem occurs when an SDH/SONET signal is crossing the network and arrives degraded at its destination.

The Victoria STM-16/OC-48 Plus generates and analyses all type of TCM events to check that this protocol is working correctly.

Automatic Measurements

The ability to make automatic measurements by using macros makes Victoria STM-16/OC-48 Plus a powerful tool in carrying out repetitive tests, such as bringing-into-service and type approval of network equipment.



With the the macro utility you can:

- Carry out complex measurements with a single keypress
- Help field technicians throughout the measurement, by means of the graphical user interface of the tester
- Program customized pass/fail tests that show the result by displaying a label on the screen
- Create new specialized measurements that the user can create, such as repetitive BERT used when installing radio links

Technical Specifications

TRANSMISSION

Electrical Interfaces

- BNC (default), DIN 1.6/5.6 (option DIN55)
- Rates: 2048 kbit/s HDB3 and AMI, 8448 kbit/s HDB3 and AMI, 34368 kbit/s HDB3, 139264 kbit/s CMI, 155520 kbit/s CMI
- Optional: 1544 kbit/s B8ZS and AMI (option 30554), 44736 kbit/s B3ZS & AMI (option 30552), pulses DS3-HI and DSX-3 (with accessory AD045), 51840 kbit/s B3ZS (option 30551)
- Balanced Bantam (accessory AD300), Siemens (accessory AD320) and RJ48 (accessory AD322) for 1544 kbit/s and 2048 kbit/s
- Interfaces according to G.703, ANSI T1.102 and G.772
- Gain: 0, 20, 26, 30 dB from 1544 kbit/s to 51840 kbit/s; 0, 20, 26 dB for 139264 kbit/s and 0, 20 dB for 155520 kbit/s

Optical Interfaces

- Built-in connectors for 155520 kbit/s, 622080 kbit/s and 2488320 kbit/s
- Interfaces according to the ITU-T G.957 L-16.1 and L-16.3
- FC (default), SC (option 3090SC) or ST (option 3090ST) connectors
- Automatic disconnection of the receiver for overload protection
- 1310 nm transmitter (configurations 3095C1, 3095C4) and 1550 nm transmitter (configurations 3095C2, 3095C4)
- Via external optical micromodules fed by the equipment for 34368 kbit/s (option 305531), 51840 kbit/s (option 305511), and 155520 kbit/s

Clock

Clock sources

- Internal, according to G.812
- Recovered from the incoming signal
- External 1544/2048 kHz with BNC connector
- External coded G.703 at 1544 kbit/s and 2048 kbit/s with BNC or balanced connector with 0 and 20 dB gain (accessory AD340)

Modes

- SDH/SONET/PDH//T-Carrier termination
- SDH/SONET/PDH/T-Carrier, bridged
- SDH/SONET mux/demux
- Through mode for all the interfaces

SDH

General

- According to G.707 and O.181
- Programmable scrambler and background

Mappings

- C-4-16c in STM-16
- C-4-4c in STM-4 and STM-16
- C-4 (unstructured or with framed E4) in STM-1, STM-4 and STM-16.
- C-3 (unstructured or with framed E3 or DS3) in STM-0, STM-1, STM-4 and STM-16 (both with an AU-3 or AU-4)
- C-12 (unstructured or with framed E1, asynchronous or byte synchronous) in STM-0, STM-1, STM-4 and STM-16
- C-11 (unstructured or with framed DS1) in STM-0, STM-1, STM-4 or STM-16

Programmable Bytes

Editing and display in hexadecimal or by descriptor

- RSOH: A1, A2, J0, C1
- MSOH: K1, K2, S1
- HO-POH (VC-4, VC-3): J1, C2, G1, H4, K3
- LO-POH (VC-3): J1, C2, G1, H4, K3
- LO-POH (VC-12, VC-11): V5, J2, K4

Trail Trace

- Generation, analysis and expected 16- and 64-byte messages in J0, J1 and J2

Errors

- Insertion and detection of ECOD, EFAS, OOF, B1, B2, MS-REI, HP-B3, HP-REI, LP-B3, LP-REI, BIP-2, slips and bit errors
- Insertion mode: single, burst, repetitive burst and rate (1.1×10^{-3} to 0.9×10^{-9}s)

Alarms

- Insertion and detection of LOS, LOF, RS-TIM, MS-AIS, MS-RDI, AU-AIS, AU-LOP, HP-UNQ, HP-RDI, HP-TIM, HP-PLM, TU-LOM, TU-AIS, TU-LOP, LP-UNQ, LP-RDI, RFI, LP-TIM, LP-PLM, LSS, pattern AIS.
- Insertion mode: continuous, burst of M frames with alarm, repetitive M/N burst

Pointer Events

- Increment, decrement, manual value with or without NDF, invalid pointer in AU-4, AU-3, TU-3, TU-2, TU-12 and TU-11
- G.783/O.172 pointer sequences
- Programming of SS bits
- Tributary frequency offset

SONET

General

- According to ANSI.105-1995 and Telcordia GR.253
- Programmable scrambler and background

Mappings

- STS-48c
- STS -12c
- STS-3c bulk or with framed E4
- STS-1 bulk or with framed DS3 or E3
- VT-2 bulk or with framed E1 (asynchronous or byte synchronous)
- VT-1.5 bulk or with framed DS1

Programmable Bytes

Display of all bytes and editing in hexadecimal or by descriptor of:

- SOH: A1, A2, J0, C1
- LOH: K1, K2, S1
- STS-POH: J1, C2, G1, H4, K3
- VT-POH: J2, V5, K4

J0, J1, J2 Trail Trace

- Generation, analysis and expected 16- and 64-byte messages in J0, J1 and J2

Errors

- Insertion and detection of ECOD, EFAS, SEF, B1, B2, REI-L, STS-B3, REI-P, VT-B3, REI-V, BIP-2, slip and bit errors
- Insertion mode: single, burst, repetitive burst and rate (1.1×10^{-3} to 0.9×10^{-9}s)

Alarms

- Insertion and detection of LOS, LOF, TIM-S, AIS-L, RDI-L, AIS-P, LOP-P, UNEQ-P, RDI-P, TIM-P, PLM-P, LOM-V, AIS-V, LOP-V, UNEQ-V, RDI-V, RFI-V, TIM-V, PLM-V, LSS pattern AIS
- Insertion mode: continuous, burst of M frames with alarm, repetitive M/N burst

Pointer Events

- Increment, decrement, manual value with or without NDF, invalid pointer in STS-3c, STS-1, VT-2, VT-1.5
- G.783/O.172 pointer sequences
- Programming of SS bits
- Tributary frequency offset

PDH

Structure

- 140 and 8 Mbit/s according to G.751, G.742, G.704, framed and unframed
- 34 Mbit/s according to G.751 or optionally according to G.832 for transporting 14 TU-12s (options 30553, 305531), or unframed
- PCM30/31 frame structure with/without CRC for 2 Mbit/s signals. Test signal in 64 or N x 64 kbit/s. CAS signalling: setup and display of the CAS multiframe and spare bits of frame 0

Errors

- Insertion and detection of code errors, FAS errors, CRC errors, REBE, slips and bit errors
- For G.832 framing in 34 Mbit/s, insertion and detection of EM, REI, LP-REI, BIP-2

- Insertion mode: single, burst, repetitive burst and rate (1.1×10^{-3} to 0.9×10^{-9}s)

Alarms

- Insertion and detection of LOS, AIS, LOF, RAI, CRC-LOM, MAIS, CAS-LOM, MRAI, LSS and AIS pattern
- For G.832 framing in 34 Mbit/s, insertion and detection of OOF, LOF, TIM, RDI, UNEQ, PLM, TU-AIS, TU-LOP, TU-LOM, LP-UNQ, LP-RDI, RFI, LP-TIM, LP-PLM
- Insertion mode: continuous, burst of M frames with alarm, repetitive M/N burst

45 Mbit/s

Structure

- Framed M13 and C-bit according to G.752, G.704, also unframed

Errors

- Insertion and detection of BPV, M-BIT, F-PAR, P-PAR, C-PAR, FEBE, slips and bit errors
- Insertion mode: single, burst, repetitive burst and rate (1.1×10^{-3} to 0.9×10^{-9}s)

Alarms

- Insertion and detection of LOS, AIS, LOF, Blue Alarm, IDLE, RAI (Yellow Alarm), LSS and AIS pattern
- Insertion mode: continuous, burst of M frames with alarm, repetitive M/N burst

1.5 Mbit/s

Structure

- SF & ESF framing according to ANSI T1-400-1995, SLC-96 framing according to Telcordia TR-TSY-00008, and also unframed
- Fractional DS1: DS1 with test pattern in N x 64 & N x 56 kbit/s

Errors

- Insertion and detection of BPV, EFAS, ECRC and bit errors
- Insertion mode: single, burst, repetitive burst and rate (1.1×10^{-3} to 0.9×10^{-9}s)

Alarms

- Insertion and detection of LOS, LOF, RAI, LSS and line AIS
- Insertion mode: continuous, burst of M frames with alarm, repetitive M/N burst

Signalling

- Generation and analysis of *Robbed Bit* signalling
- Generation and analysis of *Data Link* messages in ESF & SLC-96 framing

TCM

- Generation and analysis of N1 and N2
- Events generated: TC-IEC, TC-OEI, TC-REI, TC-AIS, TC-LTC, TC-UNEQ, TC-ODI, TC-RDI, TC-TIM
- Detection, display, performance calculation and storage of events: TC-IEC, TC-OEI, TC-REI, TC-AIS, TC-LTC, TC-UNEQ, TC-ODI, TC-RDI, TC-TIM
- B3 or BIP-2 compensation
- Analysis and generation of APId (Access Point Identifier)

Pattern

The following patterns can be generated:

- PRBS11, PRBS15, PRBS20, PRBS23, PRBS31: normal or inverted
- Word: user defined, all zeros, all ones, 1010, 1000 and 1100

Functions

Results

- Counters, errored seconds and rate for all events: errors, alarms and pointer events

Trace

- Events are shown graphically in time plots and histograms that have advanced filter, search, identification and quantization functions and a zoom from 1 s to 1 h

SoftLEDs©

- 10 tricolour external LEDs with on-screen labelling, showing up to 80 simultaneous events

Performance

- Performance measurements in line with ITU-T G.821, M.2100, M.2101.1 and G.826. Counter, rate, unavailability and PASS/FAIL indication of compliance with programmed objectives

Round Trip Delay

- In all interfaces; range from 1 µs to 10 s

Autoconfiguration

- Identification of the incoming signal parameters: network (SDH, SONET, T-Carrier, PDH or G.832), bit rate, line code, optimal gain, frame structure, mapping
- PRBS autosearch

FastScan

- Search the incoming signal for all types of errors, alarms and events

Transparency Test

- Generation and analysis of PRBS pattern in DCC channels or E1, E2, F1, N1 and N2 bytes
- Bit error counter, rate and errored seconds
- Seconds with alarm counter for LSS

APS

- Measurement of disruption time for any STM-N/OC-N
- Tributaries: PDH, T-Carrier, SDH, SONET
- Range: 1 ms to 10 s
- Resolution: 1 ms

Optical Power Measurement

- Range: 0 to -28 dBm (+2 to -40 dBm with external optical modules)
- Resolution: ±1 dB

Frequency Measurement

- In Hertz and bit/s with deviation in ppm
- ITU-T/ANSI in-range or out-of-range indication
- TIE measurement based on Pointer Justification Events

Frequency Offset of the Transmission Clock

- Up to 40 ppm in steps of 0.01 ppm for the integrated optical interfaces
- Up to 20,000 ppm in steps of 0.01 ppm for electrical interfaces and for optical interface at 155 Mbit/s with external module

Remote Control

- Via RS-232C interface and SCPI commands
- Optional remote control with advanced GUI (option CR3090)

Printout of Results

- Totals and periods, events (trace, in real time or result files), header with configuration and results

Transfer to PC

- Via RS-232C port

Autosave

- If the mains supply fails, the current context is saved and the measurement continues when power source is restored

Automatic Measurements and Storing

- Measurements can last up to 999 days, with automatic start/stop. They are saved with name/date/time, the configuration of the tester at the time of the measurement and, if desired, a text comment by the user

ATM

ATM Interfaces

STM-1
According to O.181 and G.707. ATM cells mapped according to I.432.2. Scrambler can be disabled/enabled. Default value of SS bits = 10

RSOH, MSOH and HO-POH bytes

- Editing/Display in hexadecimal or by descriptor of C1, S1, K1, K2, C2, G1, H4 and K3

Trail trace messages J0 and J1

- Generation/Analysis of G.831 messages of 16 bytes with CRC and ECRC status

Errors

- Insertion mode - manual, rate, burst, continuous burst: B1, B2, MS-REI, HP-B3, HP-REI
- Simultaneously detected with hierarchical inhibition

Alarms

- Insertion/Detection of OOF, LOF, RS-TIM, MS-AIS, MS-RDI, AU-AIS, AU-LOP, HP-RDI, HP-SLM, HP-TIM, HP-UNEQ
- Detection of LOS

Pointers

- Editing of H1 and H2 value on generation and display of same on reception
- Insertion/Detection of invalid pointer and new value with/without NDF indication
- Insertion/Detection of increment/decrement of pointer. Manual or in intervals of between 1ms and 8 hours

STS-3c/OC-3c

- According to ANSI T1.105-1995, ATM mapping according to T1.105.02-1995. Scrambler can be disabled/enabled. Default value of SS bits = 00

SOH, LOH and STS-POH bytes

- Editing/Display in hexadecimal or by descriptor of C1, S1, K1, K2, C2, G1, H4 and K3

Trail trace messages J0 and J1

- Generation/Analysis of G.831 messages of 16 bytes with CRC and ECRC status

Errors

- Insertion mode - manual, rate, burst, continuous burst: B1, B2, REI-L, BIP-P, REI-P
- Simultaneously detected with hierarchical inhibition

Alarms

- Insertion/Detection of OOF, LOF, TIM-S, AIS-L, RDI-L, AIS- P
- Detection of LOS, LOP-P, RDI-P, PLM-P, TIM-P, UNEQ-P

Pointer actions

- Editing of H1 and H2 value on generation and display of same on reception
- Insertion/Detection of invalid pointer and new value with/without NDF indication
- Insertion/Detection of increment/decrement of pointer. Manual or in intervals of 1 ms to 8 hours

DS3
C-bit frame (T1.107-1995), ATM cell mapping options (G.804 & T1.646-1995): direct mapping or using PLCP subframe.

Errors

- Insertion mode - manual, rate, burst, continuous burst: BPV, M-bit, F-bit, P-bit and C-bit parity, FEBE.
- Simultaneously detected with hierarchical inhibition

Alarms

- Insertion/Detection of OOF, RAI, AIS, Idle signal
- Detection of LOS

Errors PLCP

- Insertion mode - manual, rate, burst, continuous burst: PLCP FAS, PLCPBIP-8, FEBE, errored POI..
- Simultaneously detected with hierarchical inhibition

Alarms PLCP

- Insertion/Detection of LOF, RAI, Loss of POI

E3/G.832 structure
Frame according to G.832, ATM cell mapping according to G.804

MA, NR and GC bytes

- Editing/Display in hexadecimal or by descriptor

Trail trace messages TR

- Generation/Analysis of G.831 messages of 16 bytes with CRC and ECRC status

Errors

- Insertion mode - manual, rate, burst, continuous burst: FAS, REI, EM (BIP-8)
- Simultaneously detected with hierarchical inhibition

Alarms

- Insertion/Detection LOF, AIS, RDI
- Detection of LOS

E1

Frame according to G.704 with CRC-4 and ATM mapping according to G.804

NFAS, TS16 bytes

- Editing/Display of Si bits and TS16

Errors

- Insertion mode - manual, rate, burst, continuous burst: HDB3 and AMI code, FAS, CRC-4, REBE (E-bit)
- Simultaneously detected with hierarchical inhibition

Alarms

- Insertion/Detection of LOF, AIS, RAI, CRC-LOM
- Detection of LOS

ATM layer

Generator

- Mapping of cells in the frames at all physical layers, UNI/NNI interfaces, byte-aligned
- Generation of 2 types of stream: foreground and background
- Cell scrambler can be disabled/enabled
- Rate adaptation with the insertion of unassigned or idle cells

Test cells

- Editing of GFC, VPI, VCI, PTI, CLP
- Programmable payload:
  Selection of AAL0, AAL1, AAL2, AAL3/4 (preconfigured) & AAL5.
  O.191, full editing in Hex or ASCII, PRBS 2^{15}-1, PRBS 2^{23}-1, all 1s, all 0s, 1010, 1000, 8-bit word

Traffic profiles

- Indication of Peak Cell Rate (PCR), Sustainable Cell Rate (SCR) and Maximum Burst Size (MBS). Resolution of 1 cell/s
- Foreground stream: CBR, VBR/2CBRs, VBR/on-off, VBR (PCR, SCR and MBS programming) and UBR
- Background streams: CBR andVBR/2CBRs

ATM traffic analyzer

Demapping of cells, UNI/ NNI interfaces & HEC delineation

- Enabling/Disabling of continuity check, cell scrambler and header correction functions
- Simultaneous analysis of fore & background streams

Selection of streams for analysis

- Editing of VPI/VCI
- Selection of payload type for foreground stream:
  Selection of AAL0, AAL1, AAL2 or AAL5
  O.191, PRBS, word and live traffic

OAM cells

- Generation of segment and end-to-end F4 and F5 flows:
  F4: VP-AIS, VP-RDI, VP-CC, VP-LB
  F5: VC-AIS, VC-RDI, VC-CC, VC-LB
- Editing of loopback cells
- Detection of segment and end-to-end F4/F5 alarm conditions:
  F4: VP-AIS, VP-RDI, VP-LOC
  F5: VC-AIS, VC-RDI, VC-LOC

Errors

Insertion mode - manual, rate, burst, continuous burst. Single or double cell header error, CER, CLR, CMR and CBER

ATM alarms

- Insertion of LCD, All 1s test sequence (P-AIS) and LSS
- Detection of LCD, LPAC, P-AIS and LSS

Results

- Measurements between 1 min and 999 days, with automatic start/stop
- All events shown in trace with resolution from 1 s to 1 h. Time plots and histograms with advanced identification, search and quantification functions. Filters by type of event

ATM headers

Count of errored, discarded and corrected cells, seconds affected and rate. HEC delineation test showing seconds with LCD

QoS monitoring

Error parameters

Count of received, non-conforming, errored, lost and misinserted cells. Calculation of CER, CLR, CMR, CBER & seconds affected. Performance parameters: SECBR, SES, ES and Unavailable time.

Delay parameters

CTD, 1-CDV, 2-CDV, IAT. Current, max, min & average values. Typical deviation & variability coefficient for 2-CDV, IAT

Monitoring of ATM traffic

- Bandwidth for link and connections: current, max, min and average values in %, cells/s and bit/s. EFCI and CLP bandwidth indication
- Histograms of all bandwidths analyzed: link, connections, total with CLP=1, connection with CLP=1, etc

AAL1 Generation & Analysis

- Generation of AAL1 fields. AAL1 payload filled with PRBS or fixed test sequence.
- Analysis (count, seconds with, ratio) of:
  Errored cells: SN parity violation
  Loss of cells: SN hop detected
  Misinserted cells: SN out of sequence

AAL2 Generation & Analysis

Generation

- 3 foreground & 1 background AAL2 connections.
- Programming CPS-Packet size and bandwidth for each connection.
- Editing CPS-Packet header bytes: CID, UUI.
- Definition of SAP for each AAL2 foreground connection: CPS, SSSAR, SSETD.
- Definition of SSETD packet size and editing trailer fields: UUI, CI & LP.
- 1 foreground filled with PRBS or fixed test sequence. Remaining foreground connections & background with word.

Analysis

- Bandwidth of 3 selectable AAL2 connections identified by CID & UUI (optional) & Total of AAL2 link.
- Packet size analysis for 3 AAL2 connections at the SAP selected (CPS-Packet size or SSETD packet size).
- Analysis of errors: CPS-PDU parity violation, CPS-PDU SN violation, errored HEC CPS-Packet, errored CRC SSETD packet, SSSAR or SSETD packet length violation.

AAL5 Generation & Analysis

Generation

- Programming of the CPI, CPS-UU fields and selection of packet size
- Payload filled with PRBS or fixed test sequence.

Analysis

- Bandwidth of AAL5 packets in packets/s and bytes/s, current, maximum, minimum and mean value. Size value of the received AAL5 packets, current, maximum and minimum.
- Error Analysis: CPI fields, maximum length exceeded, incorrect lenght, abort function and CRC error

Functions

Autodetection VPIs/VCIs
Identification of active VPIs/VCIs

Detection of AAL type
Automatic identification of AAL

Scan of specific cells
Unassigned, OAM, ILMI

Selective capture
Cell capture with filtering by header value. Display of contents with AAL decoding. Time-stamp showing interval between captures

IP layer

Functions performed by Victoria and a PC running software module:

- IP Ping (RFC 1483/1577)
- Ranked list of IP addresses
- Use of bandwidths
- Traffic composition by protocol (TCP, UDP, ICMP, IGMP...) and by application (WWW, FTP, Telnet, DNS, SNMTP...)
- Size and frequency of IP, TCP and UDP packets

Filters can be programmed to capture traffic for one single VCC connection or a range of connections.

General

- Dimensions: 257 x 147 x 70 mm
- Weight: 2.4 kg
- 12 x 9 cm colour touch screen
- Autonomy: 2 hours (two battery packs)

RF/EMI, ESD and Electrical Safety

- Radiated EMI: EN50081-1
- Immunity to EMI: EN 50082-1
- ESD: IEC801-2 (±4 kV contact)
- Electrical safety: EN61010-1

Environmental conditions

- Operates at 0 to 45 ºC
- Storage: -40 to +70 ºC
- Humidity: 5 to 90%, without condensation ❒

Ordering Information

Base Configurations

3095C1	Victoria STM-16/OC-48 Plus 1310nm FC/PC. Colour Handheld Analyser/Generator 2, 8, 34, 140, 155, 622 Mbit/s. Optional 2488, 52, 45, 1.5, 34 Mbit/s (G.832), adv. features, ATM over 2, 34,45 & 155 Mbit/s
3095C2	Victoria STM-16/OC-48 Plus 1550nm FC/PC. Colour Handheld Analyser/Generator 2, 8, 34, 140, 155, 622 Mbit/s. Optional 2488, 52, 45, 1.5, 34Mbit/s (G.832), adv. features, ATM over 2, 34,45 & 155 Mbit/s
3095C4	Victoria STM-16/OC-48 Plus 1310 & 1550nm FC/PC. Colour Handheld Analyser/Generator 2, 8, 34, 140, 155, 622 Mbit/s. Optional 2488, 52, 45, 1.5, 34 Mbit/s (G.832), adv. features, ATM over 2, 34,45 & 155 Mbit/s

Options

Transmission Options

30955	STM-16/OC-48 TEST
30551	STS-1/STM-0 Electrical Test
305511	OC-1/STM-0 Optical Test
30552	DS-3 Test
30553	G.832 34 Mbit/s Electrical Test
305531	G.832 34 Mbit/s Optical Test
30554	DS-1 Test
30561	Advanced options (TCM, M/N alarms, G.783 sequences, tributary offset)
CR3090	Remote control with graphical user interface

ATM Options

40801	ATM generation & analysis (it includes 2, 34 and 155 Mbit/s)
40702	Extends ATM capabilities over 45 Mbit/s
40802	Adds AAL2 generation & analysis
40805	Adds AAL5 generation & analysis
IPProbe	PC software for statistical analysis of IP traffic over ATM

Main Accessories and Replacement Items

PR100.1	Portable, battery-powered printer
AD045	6 dB Line Simulator for 45 Mbit/s
AD210	High impedance attenuating probe
AD300	Balun Adapter 75 Ω BNC to 100 Ω Bantam Jack
AD320	Balun Adapter 75 Ω BNC to 120 Ω Siemens
AD322	2 Mbit/s Balun Adapter 2 x BNC 75 Ω to RJ-48
AD340	Coded 1544 and 2048 kbit/s External Clock 0 and -20 dB for 1544 kHz, 2048 kHz, 1544 kbit/s and 2048 kbit/s
AD10FC	FC aerial 10 dB attenuator m-f
AD15FC	FC aerial 15 dB attenuator
BT410	Ni-MH battery pack
MOCD3095	User manual
UG3095	English Quick User Guide
UG3095S	Spanish Quick User Guide
MS3095	English Service and Calibration Manual for Victoria STM-16/OC-48 Plus 3095C
CA220	75 Ω BNC(m) - BNC(m) coaxial cable 2 m
CA230	75 Ω BNC(m) - BNC(m) coaxial cable 2 m
CA231	75 Ω BNC(f)-DIN 1.6/5.6(m) coaxial cable 2 m
CA232	75 Ω BNC(m)-DIN 1.6/5.6(f) coaxial cable 2 m
CA260	RS-232C cable for remote control sub-D 9 (f) - 9 (m)
CP2FC	Optical cable 2 m with FC-PC/FC-PC connectors
CP2SC	Optical cable 2 m with SC/SC connectors.
CP2ST	Optical cable 2 m with ST/ ST connectors
CPFC2SCPC	Optical cable 2 m with FC-PC/SC-PC connectors

Contact Trend Communications for information on additional options and accessories

These specifications are subject to change without prior notice

ds.va3095.03.uk / 02-09-02

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